ST-JX2020

AEP Model

FM STEREO/FM-AM TUNER

SPECIFICATIONS

FM tuner section

Tuning range 87.5 MHz – 108 MHz
Antenna terminals 300 ohms, balanced
75 ohms, unbalanced
Intermediate frequency
10.7 MHz

	(at 40 kHz deviation)
Sensitivity	at 46 dB quieting 17.3 dBf, 4 μV (mono) ; 38.3 dBf, 45 μV (stereo)
Usable sensitivity	10.3 dBf, 1.8 μV (IHF) 1.7 μV (S/N = 26 dB)
Signal-to-noise ratio	76 dB (mono) 71 dB (stereo)
Harmonic distortion (at 1 kHz)	0.15% (mono) 0.3% (stereo)
IM distortion	0.15% (mono) 0.3% (stereo)

Separation (at 1 kHz)	45 dB
Frequency response	40 Hz – 12.5 kHz ±0.5 dB 30 Hz – 15 kHz $^{+0.5}_{-2}$ dB
Selectivity	at 300 kHz 70 dB
Capture ratio	1.0 dB
AM suppression ratio	54 dB
Image response ratio	50 dB
IF response ratio	90 dB

Spurious response ratio	70 dB
RF intermodulation	60 dB (IHF)
Muting threshold	approx. 25.2 dBf, 10 μV
Output level/ impedance	at 75 kHz deviation 750 mV, 2.7 k ohms

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

SONY®
SERVICE MANUAL

ST-JX2020

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– Continued on page 2 –

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MICROFILM

SONY®

SERVICE MANUAL

MW/LW tuner section

		MW	LW
Tuning range		522 kHz – 1,602 kHz	153 kHz – 344 kHz
Antenna	ferrite-bar antenna	provided	provided
	external antenna terminal	provided	provided
Intermediate frequency		450 kHz	450 kHz
Usable sensitivity	ferrite-bar antenna	200 μV/m (at 1,000 kHz)	400 μV/m (at 230 kHz)
	external antenna	100 μV (at 1,000 kHz)	50 μV (at 230 kHz)
Signal-to-noise ratio		54 dB	54 dB
Harmonic distortion		0.3%	0.3%
Selectivity		35 dB (9 kHz)	35 dB (9 kHz)

General

System FM stereo, FM/AM superheterodyne tuner

Power requirements 220 V ac
adjustable
50/60 Hz

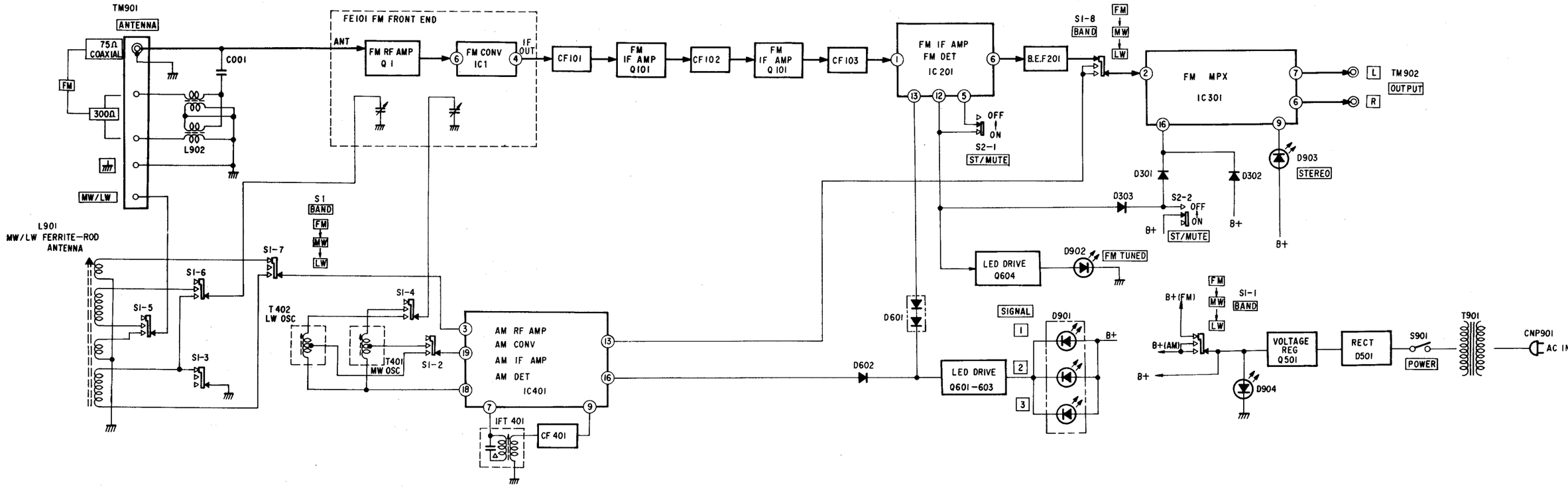
Power consumption 8 watts

Dimensions Approx. 430 × 55 × 310 mm (w/h/d)
(17 × 2 1/4 × 12 1/4 inches)
including projecting parts and controls

Weight Approx. 2.6 kg (5 lbs 12 oz) net
Approx. 3.1 kg (6 lbs 14 oz) in shipping carton

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

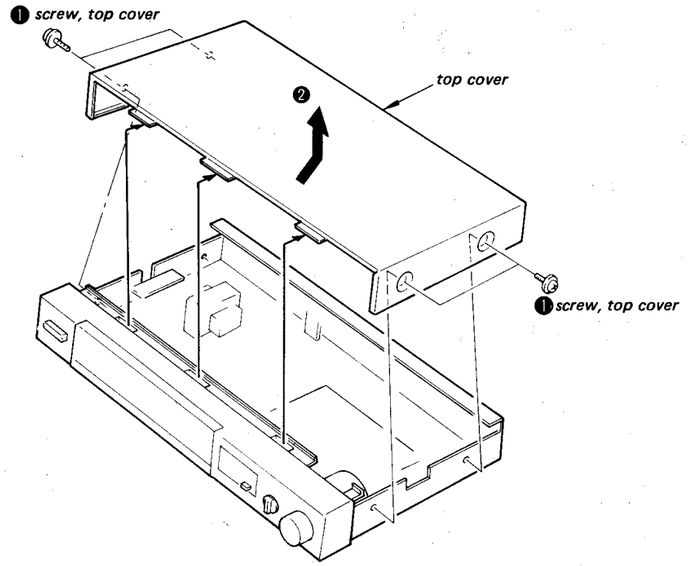


SECTION 2
DISASSEMBLY

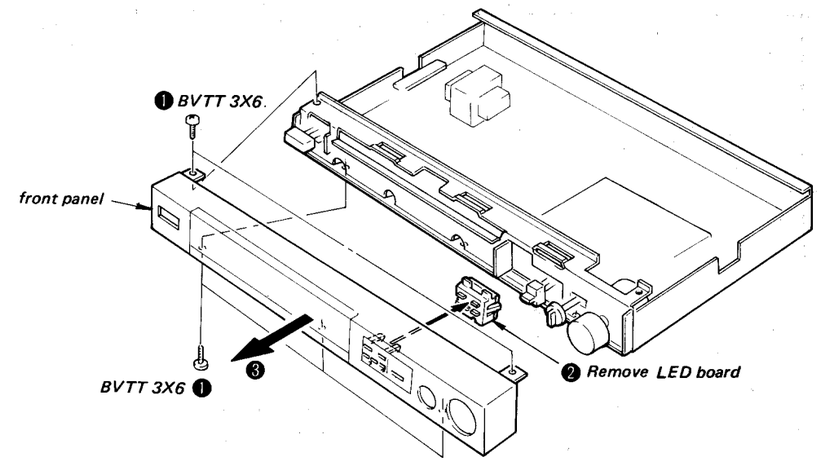
2-1. REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

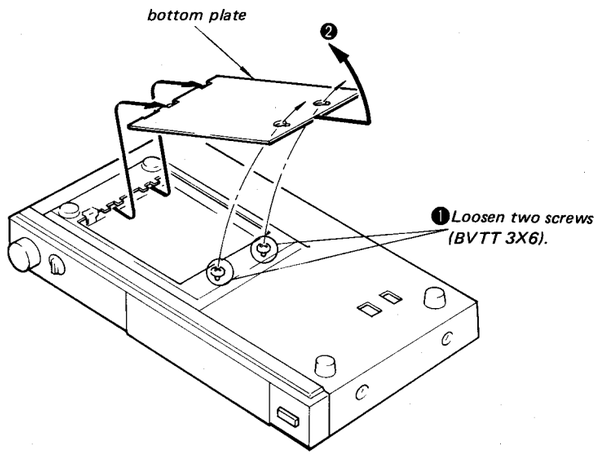
TOP COVER



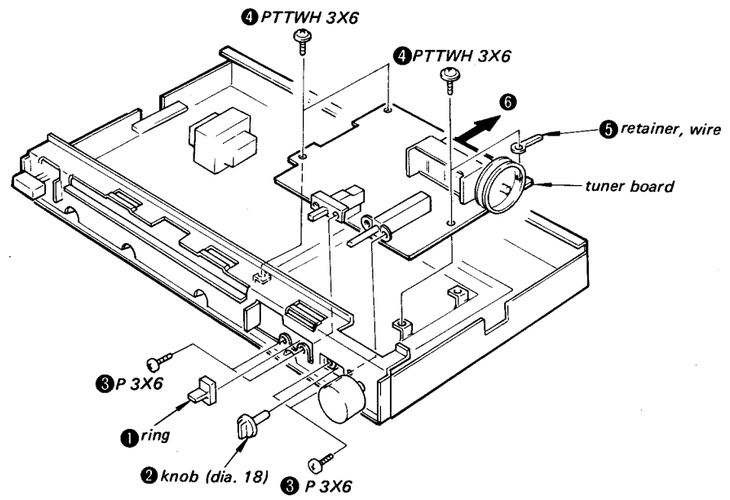
FRONT PANEL



BOTTOM PLATE

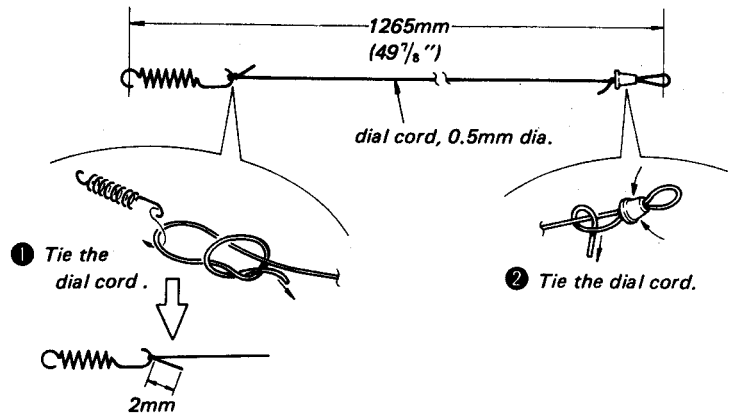


TUNER BOARD

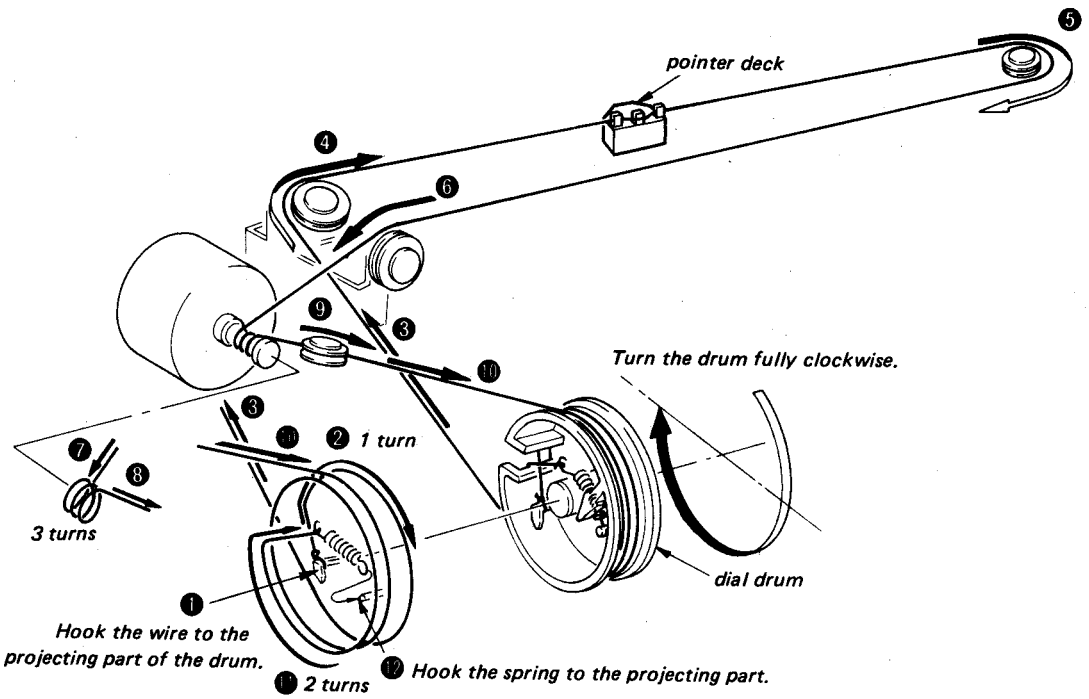


2-2. DIAL CORD STRINGING

1) Preparation



2) Stringing


pointer deck
Turn the drum fully clockwise.
1 turn
3 turns
dial drum
Hook the wire to the projecting part of the drum.
2 turns
Hook the spring to the projecting part.

3) Dial Pointer Installation

1. Receive a broadcasting station signal and set the dial pointer on the dial scale.
2. Apply a drop of contact cement to the dial pointer.

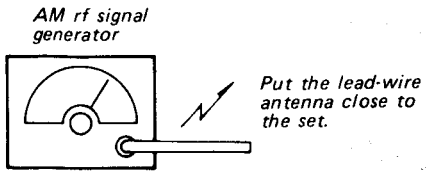
SECTION 3
ADJUSTMENTS

MW/LW SECTION

Setting:

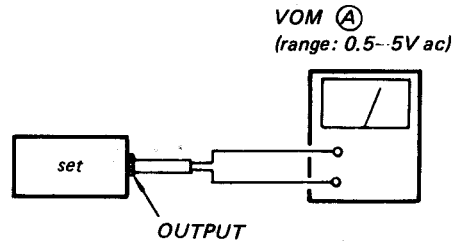
Band Selector: MW
LW

Setup:

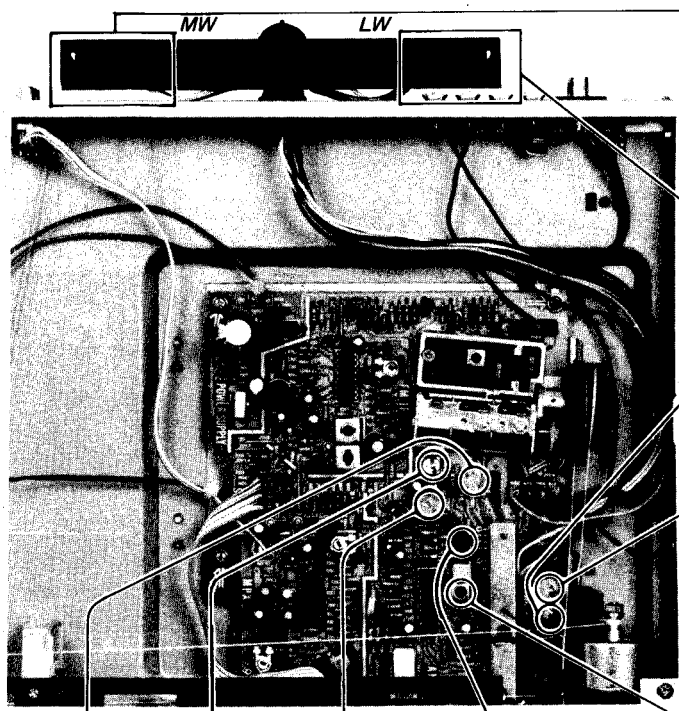


Carrier frequency: 1,000kHz (MW)
250kHz (LW)

30% amplitude modulation by 400 Hz signal



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM Ⓐ .	
L901	600kHz
CT404	1,400kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM Ⓐ .	
L901	170kHz
CT403	310kHz

AM IF ADJUSTMENT	
Adjust for maximum reading on VOM Ⓐ .	
IFT401	450kHz

IFT401

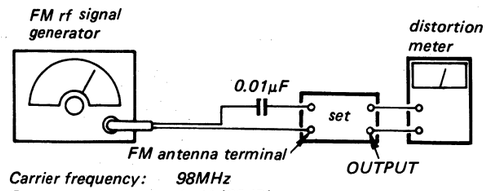
CT404	T402
1,660kHz	515kHz
Adjust for a maximum reading on VOM Ⓐ .	
MW FREQUENCY COVERAGE ADJUSTMENT	

CT401	T402
365kHz	145kHz
Adjust for a maximum reading on VOM Ⓐ .	
LW FREQUENCY COVERAGE ADJUSTMENT	

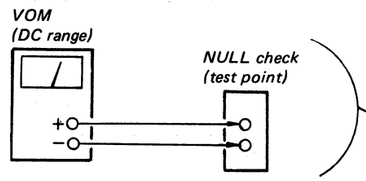
FM SECTION

FM Discriminator Alignment

Procedure:



Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation: 1kHz, 40kHz deviation (100%)
Mode: mono



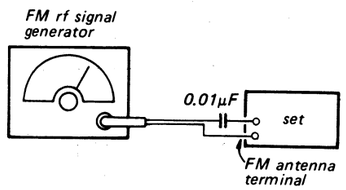
1. Tune the set to 98MHz.
2. Connect a VOM to NULL CHECK (test point) and adjust the primary-side core (red) of IFT201 for 0V DC reading on the VOM.
3. Adjust the secondary-side core (black) of IFT202 for a minimum reading on the distortion meter.

Note: Repeat the secondary-side and primary-side adjustments several times.

VCO Adjustment

A) Regular Method

Procedure:

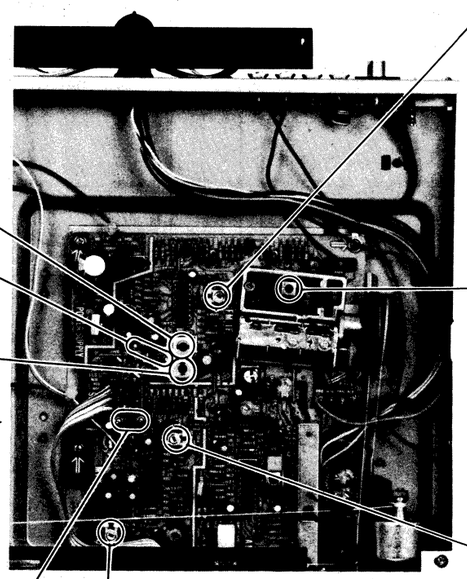


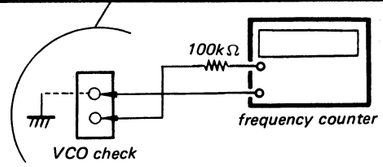
Carrier frequency: 98MHz
Modulation: no modulation
Output level: 1mV (60dB)

B) Simple Method

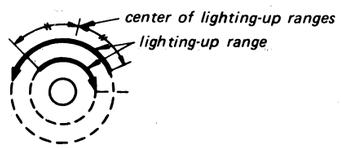
Procedure:

1. Tune the set to 98MHz.
2. Adjust RT301 for 19kHz ± 50Hz on the counter.





1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT301 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RT301 at the center of the lighting-up range of both turns as shown below.

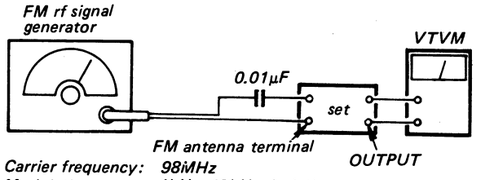


FM Muting Level Adjustment

Setting:

STEREO MUTING switch (S2): ON

Procedure:



Carrier frequency: 98MHz
Modulation: 1kHz, 40kHz deviation (100%)
Output level: 10μV (20dB)

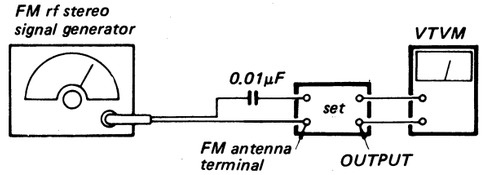
1. Tune the set to 98MHz.
2. Set the output level of the FM rf signal generator to 20dB (10μV).
3. Turn RT201 and stop it just when the VTVM indication suddenly decreases.

FM Stereo Separation Adjustment

Setting:

STEREO MUTING switch (S2): ON

Procedure:



Carrier frequency: 98MHz
Output level: 1mV (60dB)
Mode: stereo
Modulation:
Audio (1kHz): 16.25kHz deviation (40%)
Pilot (19kHz): 7.5kHz deviation (20%)
Sub-channel (38kHz): 16.25kHz deviation (40%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT302 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT302 for minimum reading.

L-CH Stereo Separation: Ⓐ − Ⓑ
R-CH Stereo Separation: Ⓒ − Ⓓ

The separations of both channels should be equal.

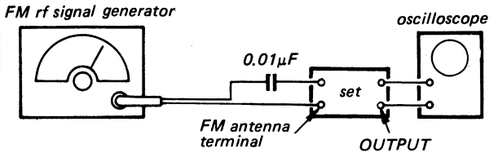
The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement. In case of replacement, perform the following adjustments.

1. Front-End IFT Adjustment.

Setting:

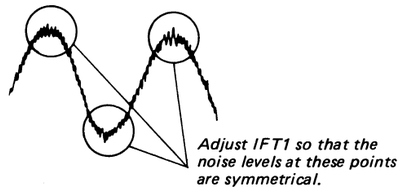
STEREO MUTING switch (S2): OFF

Procedure:



Carrier frequency: 98MHz
Modulation: 1kHz, 40kHz deviation (100%)
Output level: 2μV (6dB)

Adjust IFT1 so that the noise levels at the peak of the waveforms on the oscilloscope are symmetrical and the output level is maximum.

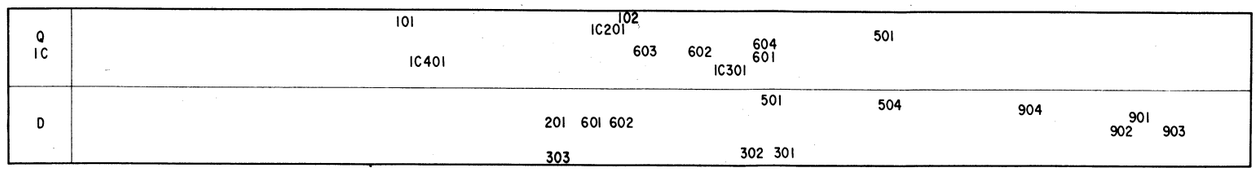


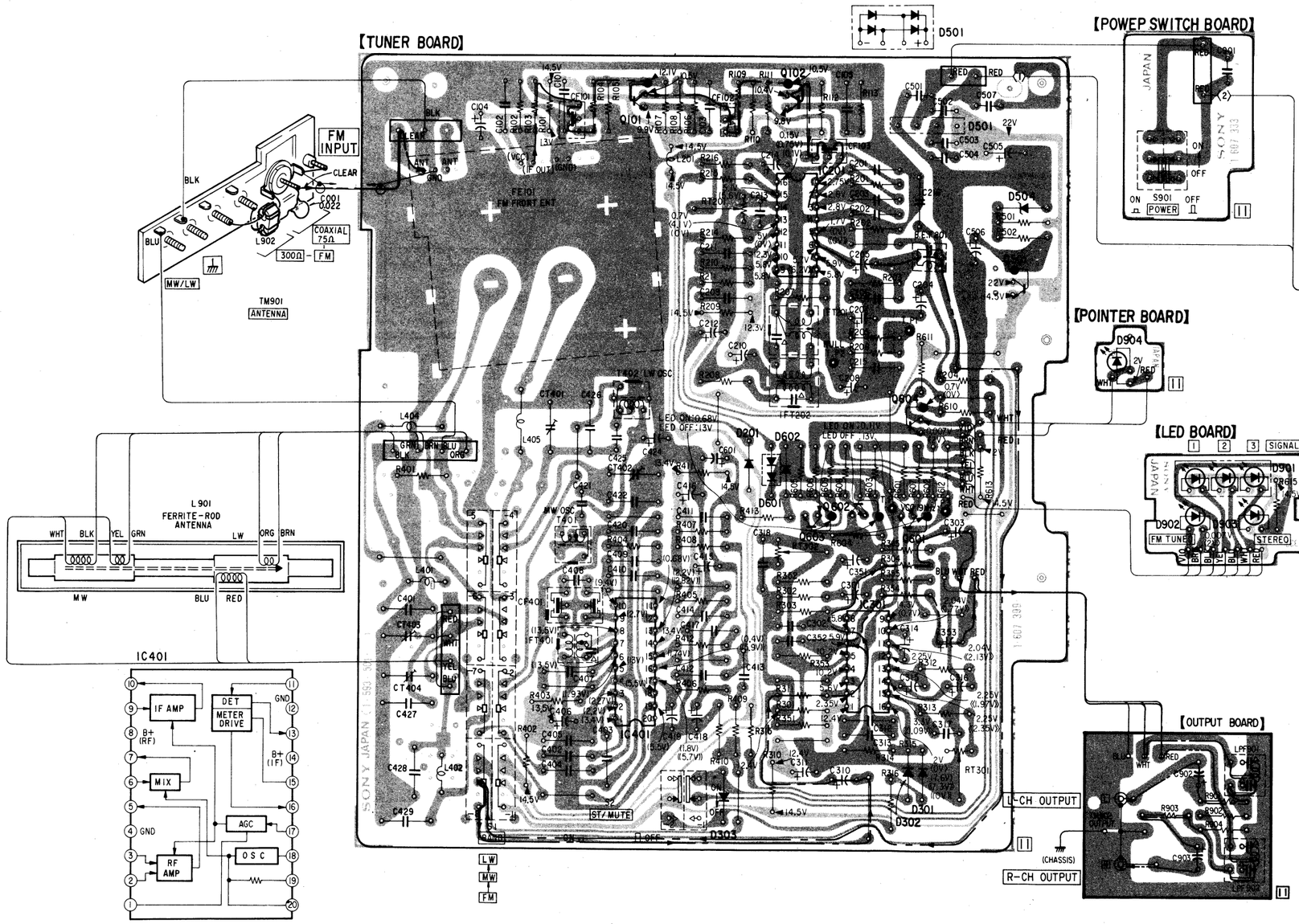
2. Dial Pointer Setting
(Refer to Dial Pointer Setting on page 7.)
3. MW Tuning Adjustment
(Refer to MW Tuning Adjustment on page 8.)

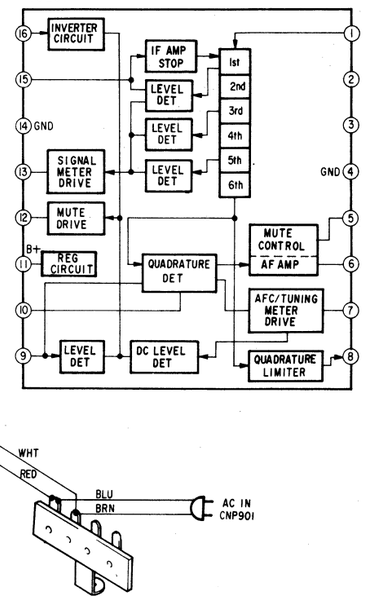
SECTION 4
DIAGRAMS

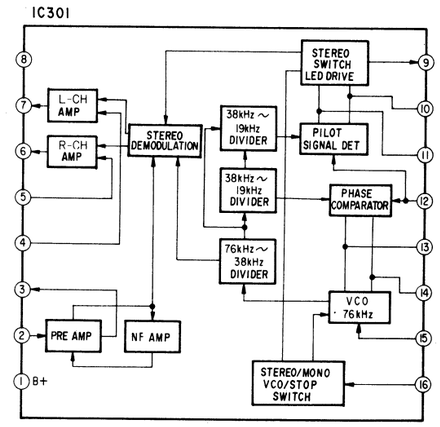
4-1. MOUNTING DIAGRAM
– Conductor Side –

● See page 13 for semiconductor lead layouts.

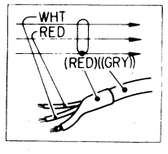








● Color code of sleeving over the end of the jacket.



● ○—: parts extracted from the component side.
● [ ]→ : indicates side identified with part number.
● ▒▒ : B+ pattern

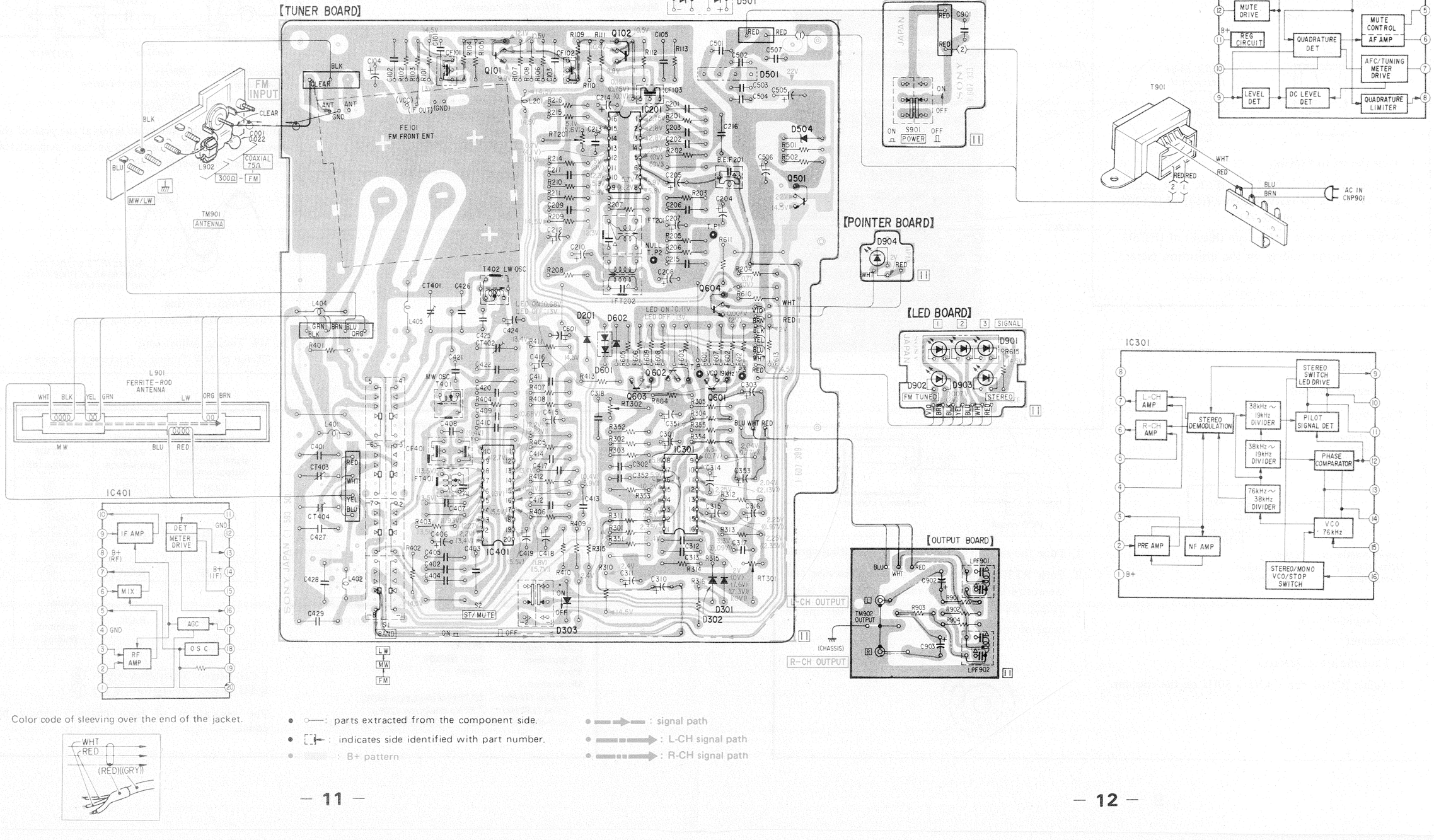
● ▬▶▬ : signal path
● ▬▶▬ : L-CH signal path
● ▬▶▬ : R-CH signal path

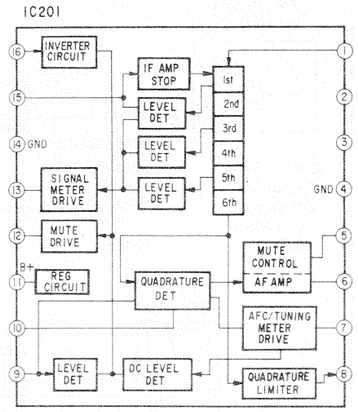
SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM
— Conductor Side —

• See page 13 for semiconductor lead layouts.

Q IC	101 IC401 102 IC201 603 602 604 601 IC301 501
D	501 504 904 901 902 903 201 601 602 303 302 301



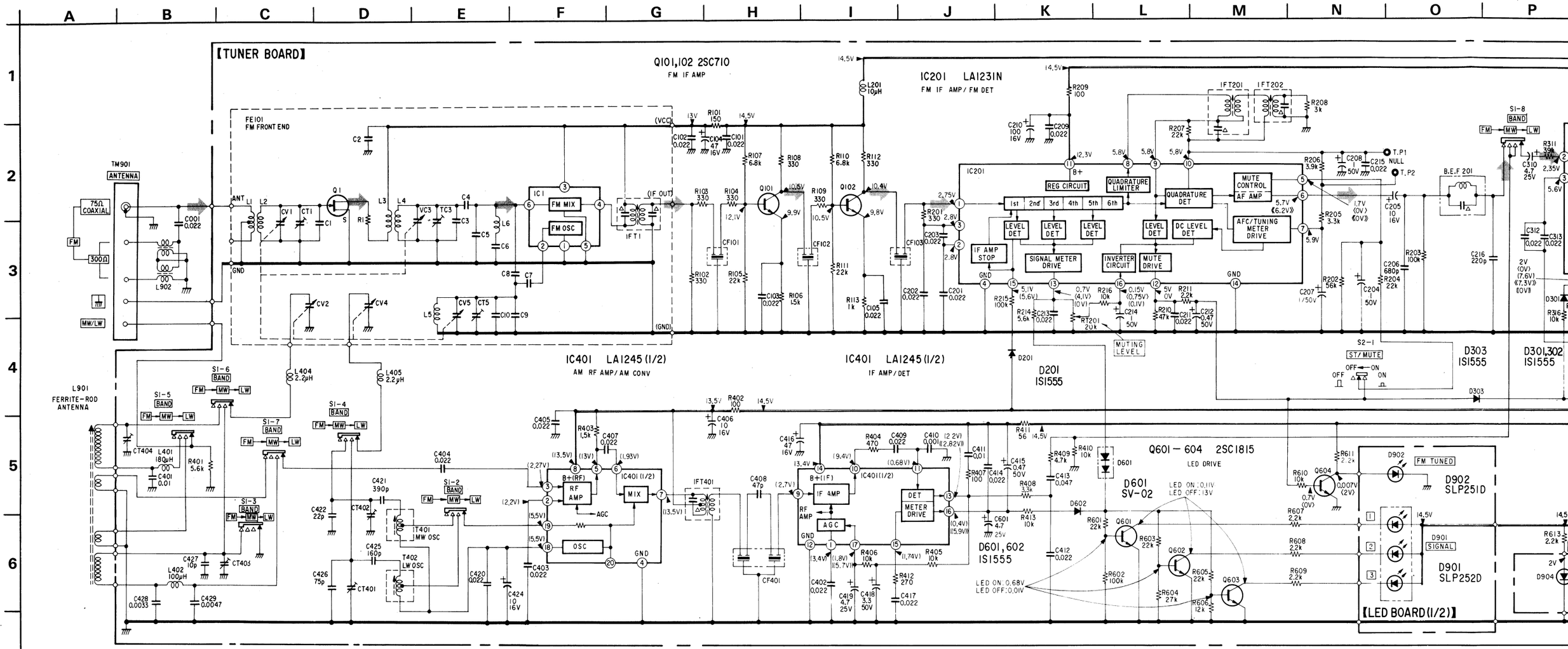


• Color code of sleeving over the end of the jacket.

• ○—: parts extracted from the component side.
• ⊣⊢: indicates side identified with part number.
• : B+ pattern

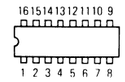
• : signal path
• : L-CH signal path
• : R-CH signal path

4-2. SCHEMATIC DIAGRAM

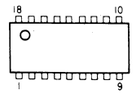


Semiconductor Lead Layouts

LA1231, μPC1235C

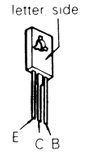


LA1245

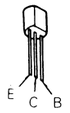


2SC710-15

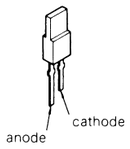
2SD809



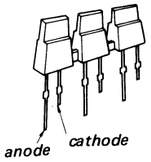
2SC1364



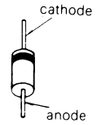
SLP251D
SLP252D-03



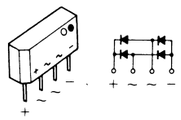
SLP151D



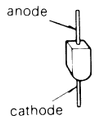
1S1555
EQB01-15



SIVB20



SV02



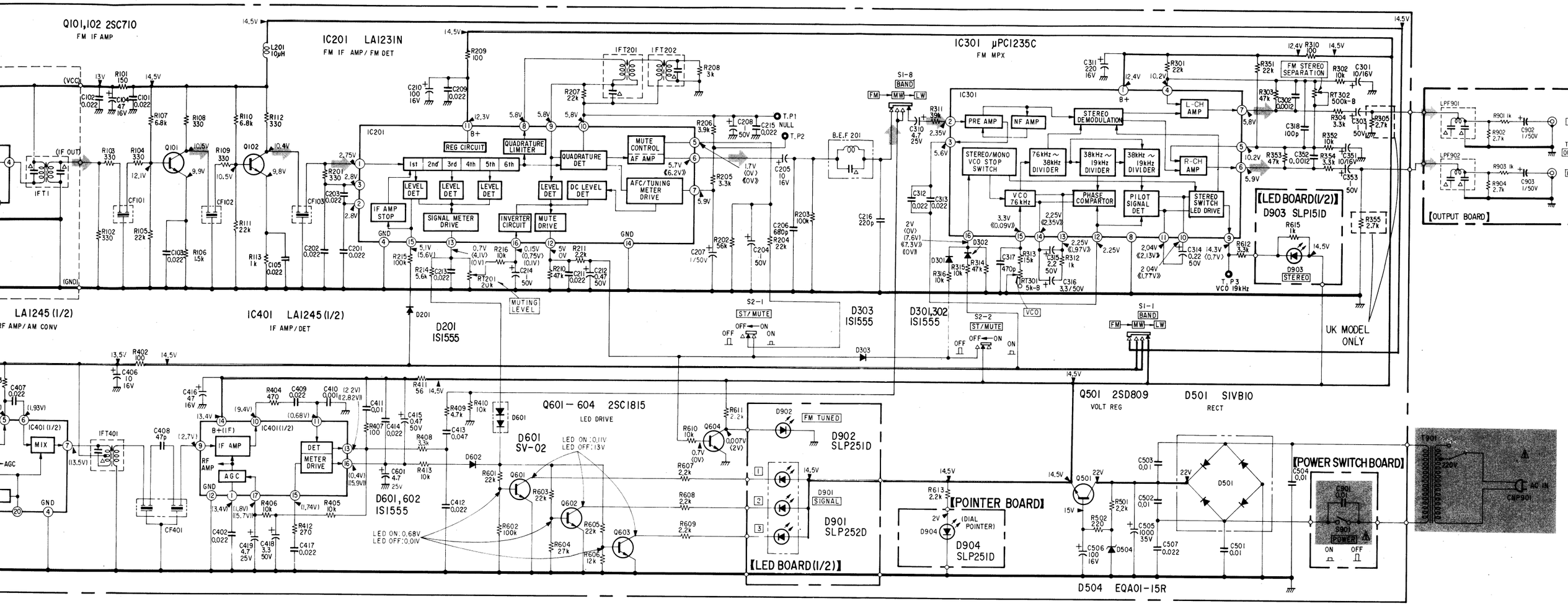
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- Readings are taken under no-signal (detuned) conditions. with a VOM (20 kΩ/V)

no mark	: FM (Detuned condition)	ST/MUTE switch: ON
< >	: FM (Tuned condition)	
( )	: AM (Detuned condition)	
≪ ≫	: FM (Detuned condition)	ST/MUTE switch: OFF
(( ))	: AM (Tuned condition)	

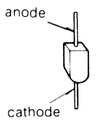
- ➡ : signal path

Note: Voltage are measured with a VOM (50kΩ/V)

Note: The components identified by shading and ma ⚠ are critical for safety. Replace only w part number specified.



SV02



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no mark	: FM (Detuned condition)	ST/MUTE switch: ON
< >	: FM (Tuned condition)	
( )	: AM (Detuned condition)	
≪ ≫	: FM (Detuned condition)	ST/MUTE switch: OFF
(( ))	: AM (Tuned condition)	

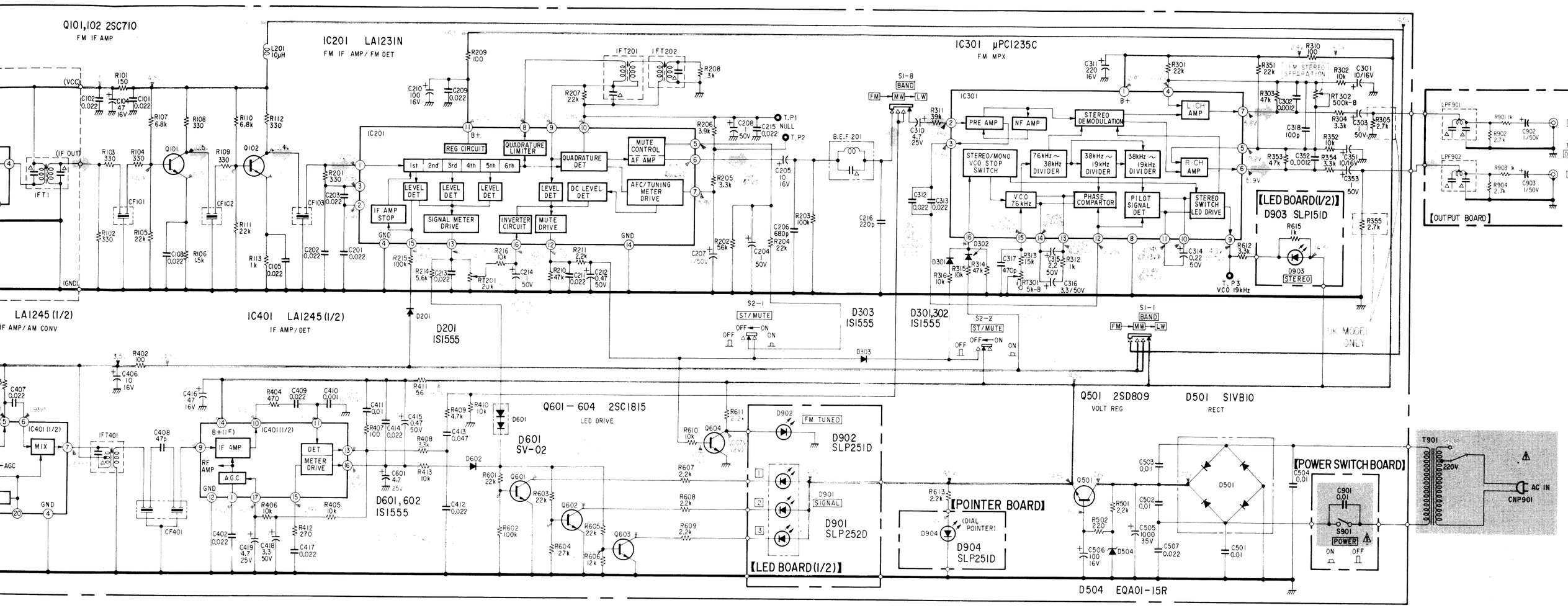
- ➡ : signal path

Note: Voltage are measured with a VOM (50kΩ/V)

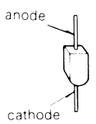
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ST-JX2020

G H I J K L M N O P Q R S T U V W



SV02



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- △ : internal component.
- ▭ : panel designation.
- [illegible] : [illegible] for repair.
- [illegible] : B+ line.
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- [illegible] : signal path

Note: Voltage are measured with a [illegible] OM (50kΩ/V)

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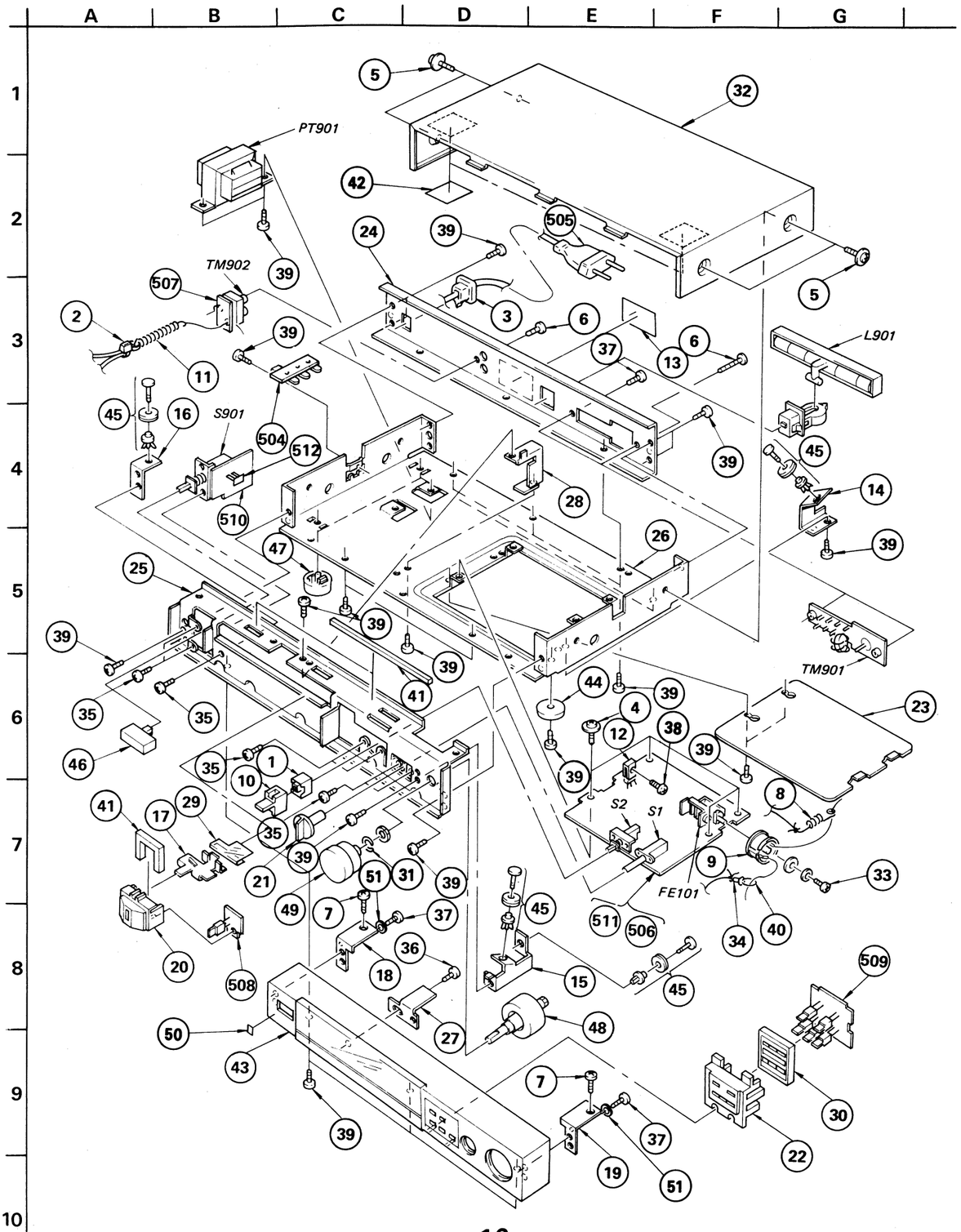
SECTION 5
EXPLODED VIEWS AND PARTS LIST



GENERAL SECTION

No.	Part No.	Description
1	3-302-902-51	KNOB, PUSH
2	3-671-893-00	CLAMP (LOW TYPE)
3	3-703-244-00	BUSHING, CORD
4	3-703-249-01	SCREW, S TIGHT, +PTTWH 3X6
5	4-889-321-11	SCREW
6	3-703-473-00	SCREW, TERMINAL
7	3-703-583-00	TIGHT (3X6), PLATE TAP
8	4-809-050-00	SPRING, TENSION
9	4-859-586-01	DRUM (165), DIAL
10	4-864-307-00	RING
11	4-864-520-00	SPRING, TENSION
12 ♦	4-866-080-00	HEAT SINK
13	4-881-560-00	LABEL, MODEL NUMBER (AEP)
14 ♦	4-881-512-00	BRACKET (A), PULLEY
15 ♦	4-881-513-00	BRACKET (B), PULLEY
16 ♦	4-881-514-00	BRACKET (C), PULLEY
17 ♦	4-881-515-00	BRACKET, POINTER
18 ♦	4-881-516-00	BRACKET (LEFT), PANEL
19 ♦	4-881-517-00	BRACKET (RIGHT), PANEL
20	4-881-519-00	POINTER
21	4-881-520-21	KNOB (DIA. 18)
22	4-881-521-00	HOLDER, LED
23 ♦	4-881-522-00	PLATE, BOTTOM
24 ♦	4-881-525-11	PLATE, JACK
25 ♦	4-881-526-00	PANEL, SUB
26 ♦	4-881-529-00	CHASSIS
27 ♦	4-881-531-00	BRACKET (C), PANEL
28 ♦	4-881-533-00	REINFORCEMENT
29	4-881-534-00	SLIDER
30 ♦	4-881-535-00	HOLDER
31	4-881-539-00	RING
32	4-881-528-31	CASE
33	7-621-759-45	+PSW, 2.6X6
34	7-623-615-01	EYELET, 2X2
35	7-682-147-09	SCREW +P 3X6
36	7-685-134-11	SCREW +P 2.6X8 TYPE2 NON-SLIT
37	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
38	7-685-872-01	SCREW +BVTT 3X8 (S)
39	7-685-871-01	SCREW +BVTT 3X6 (S)
40	9-911-825-42	STRING, 0.5MM WHITE
41	9-911-845-XX	CUSHION
42	9-911-863-XX	SHEET, FIBER
43	X-4881-509-1	PANEL ASSY
44	X-3701-069-0	FOOT ASSY, M.F
45	X-4864-705-0	PULLEY ASSY

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No.	Part No.	Description
46 ♦	X-4881-408-2	KNOB ASSY, POWER
47	X-4875-123-1	FOOT ASSY, MF
48 ♦	X-4881-501-0	WHEEL ASSY, TUNING
49	X-4881-503-3	KNOB (DIA.28) ASSY, R
50	3-703-713-01	STICKER, SONY SYMBOL (10)
51	7-688-003-01	W 3, SMALL

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
91	1-501-224-11	ANTENNA,FEEDER
92	1-551-734-11	CORD, CONNECTION
93	3-701-630-00	BAG, POLYETHYLENE
94	3-773-481-41	MANUAL, INSTRUCTION
95	4-876-352-00	SHEET, PROTECTION
96	4-881-536-00	CUSHION (UPPER)
97	4-881-537-00	CUSHION (LOWER)
98	X-4881-509-1	PANEL ASSY
99	3-701-360-00	LABEL, DESTINATION
100	4-881-562-00	INDIVIDUAL CARTON

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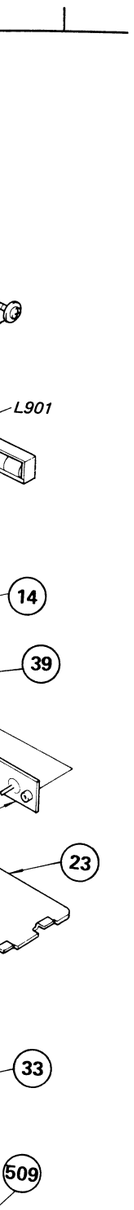
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

Ref.No.	Part N
501 ♦	;1-535-
502 ♦	;1-535-
503 ♦	;1-535-
504	1-536-
505 △	1-551-
506 ♦	;1-607-
507 ♦	;1-607-
508 ♦	;1-607-
509 ♦	;1-607-
510 ♦	;1-607-
511 ♦	;A-4351
512 ♦	;1-560-
C101	1-161-
C102	1-161-
C103	1-161-
C104	1-123-
C105	1-161-
C201	1-161-
C202	1-161-
C203	1-161-
C204	1-123-
C205	1-123-
C206	1-161-
C207	1-123-
C208	1-123-
C209	1-161-
C210	1-123-
C211	1-161-
C212	1-123-
C213	1-101-
C214	1-123-
C215	1-161-
C216	1-161-
C301	1-123-
C302	1-108-
C303	1-123-
C310	1-123-
C311	1-123-
C312	1-161-
C313	1-161-
C314	1-123-
C315	1-123-
C316	1-123-
C317	1-104-
C318	1-161-

NOTE:
- Items with
- Items marke
- Due to stan
- If there are



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5	4-889-321-11	SCREW
6	3-703-473-00	SCREW, TERMINAL
7	3-703-583-00	TIGHT (3X6), PLATE TAP
8	4-809-050-00	SPRING, TENSION
9	4-859-586-01	DRUM (165), DIAL
10	4-864-307-00	RING
11	4-864-520-00	SPRING, TENSION
12 ♦	4-866-080-00	HEAT SINK
13	4-881-560-00	LABEL, MODEL NUMBER (AEP)
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18 ♦	4-881-516-00	BRACKET (LEFT), PANEL
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24 ♦	4-881-525-11	PLATE, JACK
25 ♦	4-881-526-00	PANEL, SUB
26 ♦	4-881-529-00	CHASSIS
27 ♦	4-881-531-00	BRACKET (C), PANEL
28 ♦	4-881-533-00	REINFORCEMENT
29	4-881-534-00	SLIDER
30 ♦	4-881-535-00	HOLDER
31	4-881-539-00	RING
32	4-881-528-31	CASE
33	7-621-759-45	+PSW, 2.6X6
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95	4-876-352-00	SHEET, PROTECTION
96	4-881-536-00	CUSHION (UPPER)
97	4-881-537-00	CUSHION (LOWER)
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· MMH : mH, UH : μH

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In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501 ♦	1-535-115-00	TERMINAL			
502 ♦	1-535-116-00	TERMINAL			
503 ♦	1-535-117-00	TERMINAL			
504	1-536-732-00	TERMINAL BOARD, LUG			
505 ⚠	1-551-427-11	CORD, POWER, EULO PLUG			
506 ♦	1-607-339-00	PC BOARD, TUNER			
507 ♦	1-607-784-00	PC BOARD, OUTPUT			
508 ♦	1-607-341-00	PC BOARD, POINTER			
509 ♦	1-607-342-00	PC BOARD, LED			
510 ♦	1-607-343-00	PC BOARD, POWER SWITCH			
511 ♦	A-4351-305-A	MOUNTED PCB, TUNER			
512 ♦	1-560-595-00	TERMINAL (WITH BASE)			
C101	1-161-494-00	CERAMIC	0.022MF	30%	25V
C102	1-161-494-00	CERAMIC	0.022MF	30%	25V
C103	1-161-494-00	CERAMIC	0.022MF	30%	25V
C104	1-123-332-00	ELECT	47MF	20%	16V
C105	1-161-494-00	CERAMIC	0.022MF	30%	25V
C201	1-161-494-00	CERAMIC	0.022MF	30%	25V
C202	1-161-494-00	CERAMIC	0.022MF	30%	25V
C203	1-161-494-00	CERAMIC	0.022MF	30%	25V
C204	1-123-380-00	ELECT	1MF	20%	50V
C205	1-123-356-00	ELECT	10MF	20%	16V
C206	1-161-321-00	CERAMIC	680PF	10%	50V
C207	1-123-380-00	ELECT	1MF	20%	50V
C208	1-123-380-00	ELECT	1MF	20%	50V
C209	1-161-494-00	CERAMIC	0.022MF	30%	25V
C210	1-123-333-00	ELECT	100MF	20%	16V
C211	1-161-494-00	CERAMIC	0.022MF	30%	25V
C212	1-123-379-00	ELECT	0.47MF	20%	50V
C213	1-101-005-00	CERAMIC	0.022MF		50V
C214	1-123-380-00	ELECT	1MF	20%	50V
C215	1-161-494-00	CERAMIC	0.022MF	30%	25V
C216	1-161-315-00	CERAMIC	220PF	10%	50V
C301	1-123-356-00	ELECT	10MF	20%	16V
C302	1-108-351-00	MYLAR	0.0012MF	10%	50V
C303	1-123-380-00	ELECT	1MF	20%	50V
C310	1-123-328-00	ELECT	4.7MF	20%	25V
C311	1-123-321-00	ELECT	220MF	20%	16V
C312	1-161-494-00	CERAMIC	0.022MF	30%	25V
C313	1-161-494-00	CERAMIC	0.022MF	30%	25V
C314	1-123-608-00	ELECT	0.22MF	20%	50V
C315	1-123-381-00	ELECT	2.2MF	20%	50V
C316	1-123-382-00	ELECT	3.3MF	20%	50V
C317	1-104-069-00	POLYSTYRENE	470PF	5%	50V
C318	1-161-271-00	CERAMIC	100PF	5%	50V

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Ref.No.	Part No.	Description			
C351	1-123-356-00	ELECT	10MF	20%	16V
C352	1-108-351-00	MYLAR	0.0012MF	10%	50V
C353	1-123-380-00	ELECT	1MF	20%	50V
C401	1-161-330-00	CERAMIC	0.01MF	30%	25V
C402	1-161-494-00	CERAMIC	0.022MF	30%	25V
C403	1-161-494-00	CERAMIC	0.022MF	30%	25V
C404	1-161-494-00	CERAMIC	0.022MF	30%	25V
C405	1-161-494-00	CERAMIC	0.022MF	30%	25V
C406	1-123-356-00	ELECT	10MF	20%	16V
C407	1-161-494-00	CERAMIC	0.022MF	30%	25V
C408	1-101-880-00	CERAMIC	47PF	5%	50V
C409	1-161-494-00	CERAMIC	0.022MF	30%	25V
C410	1-161-323-00	CERAMIC	0.001MF	10%	50V
C411	1-161-330-00	CERAMIC	0.01MF	30%	25V
C412	1-161-494-00	CERAMIC	0.022MF	30%	25V
C413	1-108-246-00	MYLAR	0.047MF	10%	50V
C414	1-161-494-00	CERAMIC	0.022MF	30%	25V
C415	1-123-379-00	ELECT	0.47MF	20%	50V
C416	1-123-332-00	ELECT	47MF	20%	16V
C417	1-161-494-00	CERAMIC	0.022MF	30%	25V
C418	1-123-382-00	ELECT	3.3MF	20%	50V
C419	1-123-328-00	ELECT	4.7MF	20%	25V
C420	1-161-494-00	CERAMIC	0.022MF	30%	25V
C421	1-104-067-00	POLYSTYRENE	390PF	5%	50V
C422	1-102-751-00	CERAMIC	22PF	5%	50V
C424	1-123-356-00	ELECT	10MF	20%	16V
C425	1-103-706-00	POLYSTYRENE	160PF	5%	50V
C426	1-102-761-00	CERAMIC	75PF	5%	50V
C427	1-161-259-00	CERAMIC	10PF	5%	50V
C428	1-161-327-00	CERAMIC	0.0033MF	30%	50V
C429	1-161-328-00	CERAMIC	0.0047MF	30%	50V
C430	1-161-315-00	CERAMIC	220PF	10%	50V
C501	1-101-004-00	CERAMIC	0.01MF		50V
C502	1-101-004-00	CERAMIC	0.01MF		50V
C503	1-101-004-00	CERAMIC	0.01MF		50V
C504	1-101-004-00	CERAMIC	0.01MF		50V
C505	1-123-349-00	ELECT	1000MF	20%	35V
C506	1-123-333-00	ELECT	100MF	20%	16V
C507	1-101-005-00	CERAMIC	0.022MF		50V
C601	1-123-328-00	ELECT	4.7MF	20%	25V
C901 ⚠	1-101-004-00	CERAMIC	0.01MF		50V
C902	1-123-380-00	ELECT	1MF	20%	50V
C903	1-123-380-00	ELECT	1MF	20%	50V

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CF101	1-527-968-00	FILTER, CERAMIC
CF102	1-527-968-00	FILTER, CERAMIC
CF103	1-527-968-00	FILTER, CERAMIC
CF401	1-527-937-00	FILTER, CERAMIC
CT401	1-141-180-00	CAP, TRIMMER 15P
CT402	1-141-180-00	CAP, TRIMMER 15P
CT403	1-141-180-00	CAP, TRIMMER 15P
CT404	1-141-180-00	CAP, TRIMMER 15P
D201	8-719-815-55	DIODE 1S1555
D301	8-719-815-55	DIODE 1S1555
D302	8-719-815-55	DIODE 1S1555
D303	8-719-815-55	DIODE 1S1555
D501	8-719-511-20	DIODE S1VB20
D504	8-719-931-15	DIODE EQB01-15
D601	8-719-300-02	DIODE SV-02
D602	8-719-815-55	DIODE 1S1555
D901	8-719-901-78	DIODE SLP252D-03
D902	8-719-902-52	DIODE SLP251D
D903	8-719-901-53	DIODE SLP151D
D904	8-719-902-52	DIODE SLP251D
F201	1-235-126-00	ENCAPSULATED COMPONENT
FE101	1-463-405-00	FRONT END
IC201	8-759-812-31	IC LA1231
IC301	8-759-112-35	IC UPC1235C
IC401	8-759-812-45	IC LA1245
IFT201	1-404-400-00	TRANSFORMER, DISCRIMINATOR
IFT202	1-404-401-00	TRANSFORMER, DISCRIMINATOR
IFT401	1-404-383-00	TRANSFORMER, IF
L201	1-407-157-XX	MICRO INDUCTOR 10UH
L401	1-407-753-00	MICRO INDUCTOR 180UH
L402	1-407-750-00	MICRO INDUCTOR 100UH
L404	1-408-109-00	MICRO INDUCTOR 2.2UH
L405	1-408-109-00	MICRO INDUCTOR 2.2UH
L901	1-401-978-00	ANTENNA, FERRITE-ROD (LW/MW)
LPF901	1-235-138-00	FILTER, LOW PASS
LPF902	1-235-138-00	FILTER, LOW PASS
PT901⚠	1-447-314-00	TRANSFORMER, POWER
Q101	8-729-671-15	TRANSISTOR 2SC710-15
Q102	8-729-671-15	TRANSISTOR 2SC710-15
Q501	8-729-180-93	TRANSISTOR 2SD809
Q601	8-729-663-47	TRANSISTOR 2SC1364
Q602	8-729-663-47	TRANSISTOR 2SC1364
Q603	8-729-663-47	TRANSISTOR 2SC1364
Q604	8-729-663-47	TRANSISTOR 2SC1364

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R101	1-246-453-00	CARBON	150	5%	1/4W
R102	1-246-461-00	CARBON	330	5%	1/4W
R103	1-246-461-00	CARBON	330	5%	1/4W
R104	1-246-461-00	CARBON	330	5%	1/4W
R105	1-246-505-00	CARBON	22K	5%	1/4W
R106	1-246-477-00	CARBON	1.5K	5%	1/4W
R107	1-246-493-00	CARBON	6.8K	5%	1/4W
R108	1-246-461-00	CARBON	330	5%	1/4W
R109	1-246-461-00	CARBON	330	5%	1/4W
R110	1-246-493-00	CARBON	6.8K	5%	1/4W
R111	1-246-505-00	CARBON	22K	5%	1/4W
R112	1-246-461-00	CARBON	330	5%	1/4W
R113	1-246-473-00	CARBON	1K	5%	1/4W
R201	1-246-461-00	CARBON	330	5%	1/4W
R202	1-246-515-00	CARBON	56K	5%	1/4W
R203	1-246-521-00	CARBON	100K	5%	1/4W
R204	1-246-505-00	CARBON	22K	5%	1/4W
R205	1-246-485-00	CARBON	3.3K	5%	1/4W
R206	1-246-487-00	CARBON	3.9K	5%	1/4W
R207	1-246-505-00	CARBON	22K	5%	1/4W
R208	1-246-484-00	CARBON	3K	5%	1/4W
R209	1-246-449-00	CARBON	100	5%	1/4W
R210	1-246-513-00	CARBON	47K	5%	1/4W
R211	1-246-481-00	CARBON	2.2K	5%	1/4W
R214	1-246-491-00	CARBON	5.6K	5%	1/4W
R215	1-246-521-00	CARBON	100K	5%	1/4W
R216	1-246-497-00	CARBON	10K	5%	1/4W
R301	1-246-505-00	CARBON	22K	5%	1/4W
R302	1-246-497-00	CARBON	10K	5%	1/4W
R303	1-246-513-00	CARBON	47K	5%	1/4W
R304	1-246-485-00	CARBON	3.3K	5%	1/4W
R310	1-246-449-00	CARBON	100	5%	1/4W
R311	1-246-511-00	CARBON	39K	5%	1/4W
R312	1-246-473-00	CARBON	1K	5%	1/4W
R313	1-246-501-00	CARBON	15K	5%	1/4W
R314	1-246-513-00	CARBON	47K	5%	1/4W
R315	1-246-497-00	CARBON	10K	5%	1/4W
R316	1-246-497-00	CARBON	10K	5%	1/4W
R351	1-246-505-00	CARBON	22K	5%	1/4W
R352	1-246-497-00	CARBON	10K	5%	1/4W
R353	1-246-513-00	CARBON	47K	5%	1/4W
R354	1-246-485-00	CARBON	3.3K	5%	1/4W
R401	1-246-491-00	CARBON	5.6K	5%	1/4W
R402	1-246-449-00	CARBON	100	5%	1/4W
R403	1-246-477-00	CARBON	1.5K	5%	1/4W

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R404	1-246-465-00	CARBON	470	5%	1/4W
R405	1-246-497-00	CARBON	10K	5%	1/4W
R406	1-246-497-00	CARBON	10K	5%	1/4W
R407	1-246-449-00	CARBON	100	5%	1/4W
R408	1-246-485-00	CARBON	3.3K	5%	1/4W
R409	1-246-489-00	CARBON	4.7K	5%	1/4W
R410	1-246-497-00	CARBON	10K	5%	1/4W
R412	1-246-459-00	CARBON	270	5%	1/4W
R413	1-246-497-00	CARBON	10K	5%	1/4W
R501	1-246-481-00	CARBON	2.2K	5%	1/4W
R502	1-246-457-00	CARBON	220	5%	1/4W
R601	1-246-505-00	CARBON	22K	5%	1/4W
R602	1-246-521-00	CARBON	100K	5%	1/4W
R603	1-246-505-00	CARBON	22K	5%	1/4W
R604	1-246-507-00	CARBON	27K	5%	1/4W
R605	1-246-505-00	CARBON	22K	5%	1/4W
R606	1-246-499-00	CARBON	12K	5%	1/4W
R607	1-246-481-00	CARBON	2.2K	5%	1/4W
R608	1-246-481-00	CARBON	2.2K	5%	1/4W
R609	1-246-481-00	CARBON	2.2K	5%	1/4W
R610	1-246-497-00	CARBON	10K	5%	1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R611	1-246-481-00	CARBON	2.2K	5%	1/4W
R612	1-246-485-00	CARBON	3.3K	5%	1/4W
R613	1-246-481-00	CARBON	2.2K	5%	1/4W
R615	1-246-473-00	CARBON	1K	5%	1/4W
R901	1-246-473-00	CARBON	1K	5%	1/4W
R902	1-246-483-00	CARBON	2.7K	5%	1/4W
R903	1-246-473-00	CARBON	1K	5%	1/4W
R904	1-246-483-00	CARBON	2.7K	5%	1/4W
RT201	1-226-237-00	RES, ADJ, CARBON 20K			
RT301	1-228-160-11	RES, ADJ, METAL GLAZE 5K			
RT302	1-226-241-00	RES, ADJ, CARBON 500K			
S1	1-554-131-00	SWITCH, ROTARY SLIDE			
S2	1-554-128-00	SWITCH, PUSH (1 KEY)			
S901 ⚠	1-553-072-21	SWITCH, PUSH			
T401	1-405-953-00	COIL (OSC)			
T402	1-405-954-00	COIL (OSC)			
TM901	1-536-666-21	TERMINAL BOARD (ANTENNA)			
TM902	1-507-731-00	JACK, PIN 2P			

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Sony Corporation
Consumer Products Group
Technical Support Dept.

English
83F0213-1
Printed in Japan
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